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BASELINE
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ED27 / VIBRATION, ACOUSTICS, AND SHOCK TEAM

FACILITY OPERATING PROCEDURE

SRSFAMOS AND FAMOS SOFTWARE VERIFICATION

CHECK THE MASTER LIST—
VERIFY THAT THIS IS THE CORRECT VERSION BEFORE USE

Document History Log

Status (Baseline / Revision / Canceled)	Document Revision	Document Date	Description
Baseline		2/20/2002	New Document

1. INTRODUCTION

1.1 Scope. This procedure defines the software verification used to verify some test software used in pyrotechnic shock testing.

1.2 Purpose. This procedure defines the system to fulfill the requirements of MPG 8730.5.

1.3 Applicability. This procedure applies to SRSFAMOS and FAMOS software used in the pyrotechnic shock facility and related test activities.

2. DOCUMENTS

2.1 Applicable Documents

ED27-OWI-M&V-002 Quality Records Control

2.2 Reference Documents

MPG 8730.5 Control of Inspection, Measuring, and Test Equipment
SRS FAMOS Operation Manual
FAMOS User's Manual

3. SOFTWARE LIMITATIONS

Record software limitations in appendix B.

4. INSTRUCTIONS

The input files used for this verification are simulated sine wave time files. The files are arranged and analyzed in 6 test runs using the SRS FAMOS and FAMOS analysis programs. Any out-of-tolerances recorded during this verification will be reconciled and the procedure will be redone before the software is used for in-scope testing.

4.1 SRSFAMOS Setup. To start SRSFAMOS, double-click the SRSFAMOS icon. Open file MVDT011.DAT (or other files as directed). Set the following parameters and click the calculate button.

Start Frequency: 50 Stop Frequency: 10000
Display Resolution, per octave: 1/6 octave
Damping Ratio: .05 Model: Absolute Acceleration
Constraints: Apply Delta V=0 Decimation: 1
Type of input waveform: Absolute Acceleration

4.2 On the computer desktop, click the FAMOS button in the program bar at the bottom so that the FAMOS program is in a window. Select the MVDT011 variable and

save it in the ASCII format with the MVDT011.ASC filename. Select the SRS_MaxiMax variable and save it in the ASCII format with the MVDS011.ASC filename. Clear all of the variables in the FAMOS and SRSFAMOS programs.

4.3 Repeat steps 4.1 and 4.2 substituting the following filenames for MVDT011: MVDT017, MVDT031, MVDT039, MVDT055, and MVDT062 and substituting the following filenames for MVDS011: MVDS017, MVDS031, MVDS039, MVDS055, and MVDS062. Plot the results using an Excel spreadsheet.

4.4 The maximum absolute value of the transient capture plot amplitude (g's) should be as listed in Appendix A, +/- 0.5% and recorded in appendix B. The SRS plot maximum at the specified frequency should be 10 times the peak transient capture amplitude, +/- 0.5% and recorded in appendix B.

5. NOTES

[1] ABCTXXYY.SDF is the filename convention used for matching files between Team256, SRSFAMOS, and FAMOS and is as follows:

ABC - is the 3 letter test designator (i.e. TPS, SRB, etc.)
T - is used to divide the filename and is a time history file
XX - is the test number from 01 to 99
YY - is the accelerometer or data channel number from 1 to 40
.DAT - is the FAMOS file format
.ASC - is the ASCII file format for FAMOS

[2] The input data files were generated using the MAC/RAN Plug module. The number of points was calculated for 20 sine waves using the formula:

No. of points = ((1/freq.)*(No. of sine waves))*(sampling rate)

6. QUALITY RECORDS

6.1 Calibration Record. The data files listed in appendix A will be kept on the computers hard drive and on a 3.5" floppy disk labeled "FAMOS Software Verification Data Files". The floppy disk, the information in appendix B, and the data plots will be filed as a calibration record per ED27-OWI-M&V-002.

APPENDIX A

SRSFAMOS & FAMOS Software Verification Data Files[1][2]

Filename	Plot ID	Freq.(Hz.)	g's	# of points	pts./sec.
MVDT011.DAT	T01 A1	50	100	20,000	50,000
MVDT017.DAT	T01 A7	100	100	10,000	50,000
MVDT037.DAT	T03 A1	400	100	2,500	50,000
MVDT039.DAT	T03 A9	1007.9	100	992	50,000
MVDT055.DAT	T05 A5	5079.7	5000	591	150,000
MVDT062.DAT	T06 A2	10159	1000	394	200,000

APPENDIX B

SRSFAMOS & FAMOS Software Verification

SRSFAMOS software being verified: _____ Ver. _____

FAMOS software being verified: _____ Ver. _____

Computer system where SRSFAMOS & FAMOS software is being used:
Brand & Model: _____ ECN: _____

Plot ID	Transient Capture			SRS		
	Min.	Act.	Max.	Min.	Act.	Max.
T01 A1	95		105	950		1050
T01 A7	95		105	950		1050
T03 A1	95		105	950		1050
T03 A9	95		105	950		1050
T05 A5	4750		5250	47500		52500
T06 A2	950		1050	9500		10500

Verification performed by: _____ Date: _____